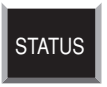
2. Press STATUS.



Sections 6.2.1, 6.2.2, and 6.2.3 demonstrate two different Status Report recitations. The Status Report starts with:

"Hello. This is 555-1234 (or the programmed ID), (Custom ID Message)."
"It is now 12:15PM (or the current time)."

The Model 800 proceeds with a separate report for each zone. Each zone identifies itself by reciting the zone number and it's associated voice message.

6.2.1 Example: Status Report, No Alarms

Zones 2, 3, 4, 5, 6, 7, and 8 are configured as dry contact and zone 1 is configured as temperature. No alarms exist. The Status Report begins by saying, *"Hello, this is 555-1234, this is building M, third floor; it is now 2:30 PM."*

Following this introduction, the report continues:

"Zone 1, room temperature, 74 degrees, OK."

"Zone 2, door alarm, OK."

"Zone 3, ups alarm, OK."

"Zone 4, water sensor, OK."

"Zone 5, OK."

"Zone 6, OK."

"Zone 7, OK."

"Zone 8, OK."

"The sound is OK."

"The power is ON." This refers to AC power.

"The batteries are OK." Other possible responses: *"Batteries are low"* or *"Replace batteries."* (Refer to Section 6.2.4 for additional information regarding battery condition.)

"The output is off."

"Listen to the sound for 10 seconds." In this case, the programmed Listen-in Time is set at 10 seconds. (This feature is not available when obtaining the Status Report on-site, directly at the keypad.)

The Status Report repeats once more and the Model 800 concludes the call, saying: *"Goodbye."* (The Status Report will not repeat if obtained at the keypad; *"Goodbye,"* is also not recited.)

The phrase *"no number"* at the end of a Status Report indicates that no dial-out phone numbers have been programmed.

6.2.2 Example: Status Report, Existing Alarms

Zones 2, 3, 4, 5, 6, 7 and 8 are configured as dry contact and zone 1 is configured as temperature. An emergency situation is at hand: a fire in a greenhouse has tripped a smoke alarm and electrical power has been disrupted. In addition to high sound and AC power alarms, separate alarms exist on zones 1, 2, 3, and 4. You happen to call in for the Status Report, which begins with, *Hello, this is 555-1234; "this is the Sensaphone 800 at ACME Greenhouse, 225 Oak Street"*

It is now 8:45 PM

Zone 1, "Temperature in greenhouse", 110 degrees Fahrenheit, too high, acknowledged alarm exists

Zone 2, "Door alarm in greenhouse", not OK, acknowledged alarm exists

Zone 3 "Water pressure alarm in greenhouse", not OK, acknowledged alarm exists

Zone 4 "Greenhouse control system", not OK, acknowledged alarm exists

Zone 5 "Emergency generator alarm", not OK, acknowledged alarm exists

Zone 6, OK

Zone 7, OK

Zone 8, OK

A High Sound alarm exists, it is now too high

The Power is Off.

The Batteries are Low.

The Output is Off.

Listen to the sound for 10 seconds.

Goodbye.

6.2.3 Example: Status Report, Disabled Zones

If a zone is disabled, the dial-out feature for that zone is deactivated, but all other programmed parameters remain in effect. In the example below, all 8 zones are disabled, although zones 1 and 3 are detecting alarms. AC power and Sound Level are also disabled for dial-out. When you call the Model 800 for a Status Report, you hear the following:

Hello, this is 555-1234; "this is the Sensaphone 800 at ACME Greenhouse, 225 Oak Street"

It is now 8:45 PM

Zone 1, "Temperature in greenhouse", the alarm is disabled, it is now 110 degrees Fahrenheit, too high, acknowledged alarm exists.

Zone 2, "Door alarm in greenhouse", the alarm is disabled, it is now not OK, acknowledged alarm exists.

Zone 3 "Water pressure alarm in greenhouse", the alarm is disabled, it is not OK.

Zone 4 "Greenhouse control system", the alarm is disabled, it is not OK.

Zone 5 "Emergency generator alarm", the alarm is disabled, it is not OK.

Zone 6, the alarm is disabled, it is now OK

Zone 7, the alarm is disabled, it is now OK

Zone 8, the alarm is disabled, it is now OK

The Sound alarm is disabled, it is now too high

The Power alarm is disabled, it is now Off.

The Batteries are Low.

The Output is On.

Listen to the sound for 10 seconds.

Goodbye.

The Status Report repeats once more and the Model 800 concludes the call, saying: *"Goodbye."*

6.2.4 Battery Condition

During a Status Report, you may hear one of three possible messages regarding battery power. The Model 800 determines the appropriate message by measuring battery voltage. Depending upon the remaining voltage, it may respond:

- *"The batteries are OK,"* if over 8.2 Volts.
- *"The batteries are low,"* if between 7.2 and 8.2 Volts.
- *"Replace batteries,"* if below 7.2 Volts.

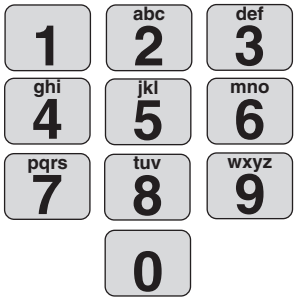
6.2.5 Remote Access by Touch-Tone™ Telephone

You can issue a number of commands to the 800 remotely using a Touch-Tone™ telephone. This command mode can be entered at any time during the status report. Simply press a Touch-Tone™ and the unit will halt the report and respond with "OK." You are now in Touch-Tone™ command mode. Commands are available to perform the following functions:

- Enable and disable zones, power monitoring, and sound monitoring
- Recite/Set High and Low alarm limits
- Recite/Set telephone numbers
- Record/Play custom voice messages
- Recite/Set the relay output
- Activate the microphone for listen-in
- Recite status report

NOTE: If a security code is enabled, the 800 will prompt you with "Enter security code." Enter the four-digit keypad security code plus "#" to enter touch-tone command mode. If entered correctly, the 800 will respond with "OK" and you can proceed to enter the commands. If entered incorrectly, the unit will give you one more chance. If it is incorrect a second time, the unit will say "Error, goodbye" and hang up.

The commands are put together based on the letters of a touch-tone telephone. See typical telephone keypad layout below.



Many of the commands use three letters that represent an abbreviation of the selected command. For example, to Set a High limit on Zone 1 you would press S + H + 1 (or in numeric form 7 + 4 + 1)

The tables below list all of the touch-tone commands that are supported. Commands are listed in both character and numeric formats. The # key is used as an ENTER key. Use the * key to represent a negative sign or to represent the [CODE] key when programming telephone numbers.

Enable/Disable Zones

This command will toggle the selected zone between the enabled or disabled state.

Description	Touch-Tone Command
Enable/Disable Zone	* + Z(9) + (zone number)

Set and Recite High & Low Alarm Limits

The following commands are used to set or recite the Low Alarm Limit for any Zone.

Description	Touch-Tone Command
Set Zone Low Limit	S(7) + L(5) + (zone #) + (value) + #
Description	**Touch-Tone Command**
What Is Zone Low Limit	W(9) + L(5) + (zone #)

The following commands are used to set or recite the High Alarm Limit for any Zone.

Description	Touch-Tone Command
Set Zone High Limit	S(7) + H(4) + (zone #) + (value)+ #

Description	Touch-Tone Command
What Is Zone High Limit	W(9) + H(4) + (zone #)

Set and Recite Telephone Numbers

The following commands will allow you to program and recite dialout telephone numbers. You may need to use the Special Dialing Codes below.

Special Dialing Codes Summary

Code 1: Numeric pager type

Code 2: Wait for answer

Code 3: Change to Touch-Tone

Code 4: Pause

Code 5: Star (*)

Code 6: Pound (#)

Description	Touch-Tone Command
Setting a phone number	S(7) + T(8) + (entry 1–8) + (telephone number) + #

Description	Touch-Tone Command
Reciting a phone number	W(9) + T(8) + (entry 1–8)

Record and Play Custom Voice Messages

The following commands will allow you to record and play back custom voice messages for the ID message (0) and each zone (1–8).

Description	Touch-Tone Command
Record a Message	S(7) + M(6) + (entry 0–8)

Description	Touch-Tone Command
Play a Message	W(9) + M(6) + (entry 0–8)

Control the Relay Output

The following commands will allow you to check the status of the relay output and to toggle the Relay Output On and Off.

Description	Touch-Tone Command
Reciting the Output Status	W(9) + R(7) + O(6)

Description	Touch-Tone Command
Switching the Output	S(7) + R(7) + O(6)

Activate Microphone Listen-in

The following command will allow you to activate the microphone listen-in for the programmed duration.

Description	Touch-Tone Command
Activate Mic Listen-in	M(6) + I(4) + C(2)

Request Status Report

The following command will initiate a status report.

Description	Touch-Tone Command
Recite status report	W(9) + S(7) + R(7)

Hang-up

The following command will make the 800 hang up the telephone line.

Description	Touch-Tone Command
Hang-up the phone line	B(2) + Y(9) + E(3)

Chapter 7: Operation

After installation and programming is completed, the Model 800 is fully operational. This chapter explains the sequence of events that occur during an alarm dialout to illustrate how the Model 800 operates.

7.1 Alarm Detection, Dial-out and Acknowledgment

Generally, an alarm event is structured in the following manner:

I. The Model 800 detects an alert condition due to a change at the sensor.
II. A valid alarm is recognized.
III. Dial-out begins.
IV. The alarm is acknowledged.

Often, an alarm does not proceed through all stages: either an alert condition does not persist long enough to be considered valid, or a valid alarm is cancelled.

The table on the following pages explains the alarm detection, dial-out and acknowledgment features and lists important variable factors affecting their operation.

I.Model 800 Detects a Change at the Sensor	Variable Factors
• Model 800 detects a change in the monitored condition (from the sensor wired to one of the zones). This is considered an alert condition, and does not qualify as a valid alarm at this point. • The condition continues throughout the programmed Recognition Time. If the condition (or sensor) reverts to its normal state before the Recognition Time is reached, no alarm will occur.	*Zone Type: (1) An open circuit closes, (2) a closed circuit opens, or (3) temperature limits are exceeded.* *Recognition Time: Activated*
II. A Valid Alarm Is Recognized	**Variable Factors**
• The condition must persist long enough to meet or exceed the programmed Recognition Time. When Recognition Time has expired, but the alert condition continues, the Model 800 will determine that a valid alarm exists. • When a valid alarm is determined, Call Delay is activated, forcing the Model 800 to wait for a programmed period of time before starting the dial-out process. Call Delay applies to the period just prior to dial-out, before the first telephone call is made. • Call Delay provides the opportunity to cancel a valid alarm at the Model 800's installation site, before dial-out occurs. An audible voice message indicates which of the zones is in alarm. If on-site personnel acknowledge the alarm within the Call Delay time, the Model 800 will not dial out. (Local Voice Mute is disabled, so that alarm messages can be heard at the site.)	*Recognition Time: Expired* *Valid Alarm: Exists* *Call Delay: Activated* *Alarm Message: Audible, On-site Activated* *Local Voice Mute: Disabled*

III. Dial-out Begins	Variable Factors
• The dial-out process is activated as soon as the Call Delay time expires (if the alarm has not been cancelled at the Model 800's installation site.) The dial-out begins with telephone number 1 and proceeds sequentially, through the remaining telephone numbers.	*Call Delay: Expired*
• If the alarm is not acknowledged with the first dial-out telephone call, the Model 800 waits the duration of Intercall Time before dialing the next telephone number. Intercall Time is the programmed waiting period in between each dial-out telephone call.	*Intercall Time: Activated*
• When the telephone is answered, the programmed Voice Repetitions determine the number of times per call the Model 800 recites the alarm message.	*Voice Repetitions: Activated*
• Call Progress, an automatic feature, enables the Model 800 to detect whether or not the telephone call is answered. After 10 rings, or if a busy signal is encountered, the Model 800 will hang up, wait the programmed Intercall Time, and proceed to dial the next telephone number.	*Call Progress: Activated*
• If no telephone calls are answered, the Model 800 dials out sequentially, through the remaining telephone numbers and continues to cycle until the programmed Maximum Number of Calls is reached.	*Max Calls: Activated*
• When the telephone is answered, the Model 800 will immediately begin reciting a message that indicates which of the zones is in alarm. At the same time, the alarm message is repeating at the Model 800's installation site. The Model 800 will request acknowledgment, if it has not yet occurred.	*Alarm Messages: By Telephone and On site*

IV. The Alarm Is Acknowledged	Variable Factors
• At any time after a valid alarm is determined, the alarm may be acknowledged at the Model 800's installation site, by pressing ALARM CANCEL key.	*Local, On-site Acknowledgment*
• When the Model 800 dials out and the call is answered via Touch-Tone telephone, any alarm may be instantly acknowledged by pressing "555."	*Touch-Tone Acknowledgment: Fast Code 555*
• If the alarm message repeats for the number of programmed Voice Repetitions, and "555" has not been entered, the Model 800 will say:	
"Enter acknowledgement code."	
The Model 800 waits 10 seconds for the Touch-Tone code "555" to be entered. If the code is entered within 10 seconds, it responds:	*Touch-Tone Acknowledgment: Normal Code 555*
"Alarm acknowledged."	
The alarm is considered acknowledged and the dialout concludes.	
• If the Model 800 does not receive the Touch-Tone code within 10 seconds, it recites the following:	*Tone or Pulse Callback Acknowledgment: Within Intercall Time*
"Error, enter acknowledgement code."	
If the Model 800 does not receive the acknowledgement code a second time, it says "error, goodbye" and hangs up. The recipient of this message must call the Model 800 back within the period programmed for Intercall Time, in order to acknowledge the alarm. If Local Voice Mute is off, the unit will beep at the installation site while waiting for this call.	
• Callback Acknowledgement: If enabled, the Model 800 waits 10 rings before	

IV. The Alarm Is Acknowledged	Variable Factors
answering to guard against random acknowledgment. If an answering device is connected to the same line as the Model 800 (and TAD is enabled), you must call the unit and let the line ring once, then hang up, wait ten seconds and call back again within 30 seconds. The Model 800 will answer on the first ring. It will recite any unacknowledged alarms, then say:	*Tone or Pulse Callback Acknowledgment: TAD Enabled*
"Alarm acknowledged, goodbye."	
When the Model 800 hangs up, the alarm is acknowledged and dial-out stops.	
• If calls remain unanswered, or if they are received by an answering machine or FAX, the Model 800 continues the dialout sequence; it waits the Intercall Time and proceeds to dial the next telephone number. Telephone numbers are dialed sequentially, and this cycle continues for the number of Max Calls programmed. If no acknowledgment occurs, then at the completion of Max Calls, the alarm is automatically acknowledged and the dial-out process is terminated.	*Max Calls Acknowledgment*

NOTE

Acknowledging the alarm does not correct the situation! The alarm condition will still exist until the sensor is restored to its normal state.

7.2 Example: A Dial-out Telephone Call

The following parameters are selected for demonstration purposes:

- Model 800 Unit ID Number is set to 555-5674. It is currently installed at your place of business.
- Dial-out Telephone Number 1 is programmed to 555-1234, your home telephone number.
- Voice Repetitions are set to 4.

The Model 800 is detecting an alarm on zone 2.

The telephone rings at 555-1234, your home number.

You answer the telephone and hear the following message:

"Hello, this is 555-5674. This is the Sensaphone 800 at John's Printing Express. It is now 12:30 AM. Zone two, back door security sensor, alarm exists, it is not okay."
(4-seconds to hear on-site sound from unit's microphone.)

"Hello, this is 555-5674. This is the Sensaphone 800 at John's Printing Express. It is now 12:30 AM. Zone two, back door security sensor, alarm exists, it is not okay."
(4-seconds to hear on-site sound from unit's microphone.)

"Hello, this is 555-5674. This is the Sensaphone 800 at John's Printing Express. It is now 12:30 AM. Zone two, back door security sensor, alarm exists, it is not okay."
(4-seconds to hear on-site sound from unit's microphone.)

"Hello, this is 555-5674. This is the Sensaphone 800 at John's Printing Express. It is now 12:30 AM. Zone two, back door security sensor, alarm exists, it is not okay."
(4-seconds to hear on-site sound from unit's microphone.)

"Enter acknowledgement code."

NOTE

It is important that your dial-out telephone numbers be answered by you or other authorized personnel in order to ensure adequate response to an alarm.

Chapter 8: Controlling the Output

The Sensaphone 800 includes a relay output that can be used to control a light, siren, or other device. The output is a Form-C Normally Open/Normally Closed mechanical relay and is rated for up to 30VAC/VDC 1A. A sample wiring diagram is shown below:

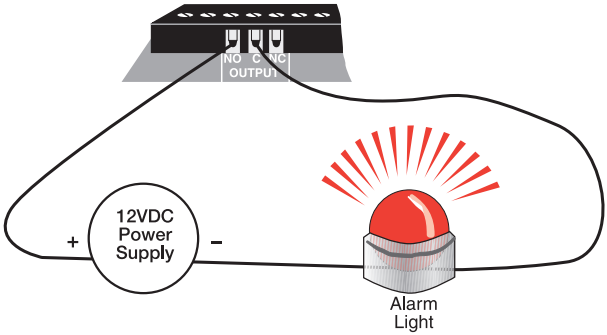


Figure 1: Relay output connected to alarm

The output can be programmed to operate in one of 13 automatic modes or it can operate in manual mode (default). The 13 *automatic* modes allow the output to automatically turn on and off based on individual alarms or any alarm. In *manual* mode the output is controlled via keypad command or remotely via touch-tone phone. A description of each mode is described below.

8.1 Output Modes

Mode	Description
1	Output on when zone 1 goes into alarm. Off when alarm is acknowledged.
2	Output on when zone 2 goes into alarm. Off when alarm is acknowledged.
3	Output on when zone 3 goes into alarm. Off when alarm is acknowledged.
4	Output on when zone 4 goes into alarm. Off when alarm is acknowledged.
5	Output on when zone 5 goes into alarm. Off when alarm is acknowledged.

Mode	Description
6	Output on when zone 6 goes into alarm. Off when alarm is acknowledged.
7	Output on when zone 7 goes into alarm. Off when alarm is acknowledged.
8	Output on when zone 8 goes into alarm. Off when alarm is acknowledged.
9	Output on when a Sound alarm occurs. Off when alarm is acknowledged.
0	Output on when a Power alarm occurs. Off when alarm is acknowledged.
Phone	Output on when phone line is unplugged for more than 15 seconds. Off when a phone line is plugged in.
*	Output on when any alarm occurs. Off when all alarms are acknowledged.
#	Output controlled manually via keypad command or touch-tone telephone. (default)
Code	Output on when any alarm occurs, except for when a phone line is unplugged. Off when all alarms are acknowledged.

8.1.1 To program the Output Mode:

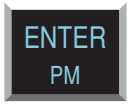
1. Press the SET key.

2. Press the OUTPUT key.

The 800 will say "Enter output mode."

3. Using the number keys, enter a value for the output mode.

4. Press the ENTER key.



The 800 will say “OK” and recite a description of the mode selected, such as “Automatic on Zone 1” or “Manual.” Note that when *Mode* * is selected, the 800 will simply say “Automatic on Alarm,” meaning that the output will automatically turn on when any alarm occurs.

8.1.2 To play back the programmed Output Mode:

1. Press WHAT IS.

2. Press OUTPUT.

The 800 will recite the programmed output mode.

8.2 Switching The Output Using The Keypad

When programmed for Manual mode, the command to switch the output is:

SENSOR ON/OFF + OUTPUT.

The 800 will respond "The output is on/off" to indicate the state of the output.

Note: If the 800 says "Error," the output is not programmed for manual mode.

8.2.1 Switching the Output Over the Phone

The following commands will allow you to check the status of the relay output and to toggle the Relay Output On and Off.

To recite the Output Status press W(9) + R(7) + O(6)

To switch the Output press S(7) + R(7) + O(6)

8.3 Typical Applications

Heating Up Your Cottage Or Cabin Remotely

If you keep your cottage or cabin open all year around, or if you do not drain your pipes and add antifreeze to your plumbing, you likely keep your furnace active when you are away but at a very low temperature. The Sensaphone will provide an invaluable service to you by keeping you updated to any change in the status of your furnace operation. Prior to your arrival at your cottage or cabin, you can remotely use your Sensaphone 800 to raise the thermostat and increase the heat.

Most furnaces use a typical 4-wire (heat/cooling) or 3-wire (heat only) thermostat. The Sensaphone can easily control these types of thermostats. ***If your heating source consists of high voltage electric baseboard heaters, you should consult a qualified***

electrician or heating professional for proper installation of the Sensaphone remote control facility. Electric baseboard heaters may utilize either a low voltage (2-wire) thermostat or a direct control high voltage thermostat. Only the low voltage thermostat may be directly connected to the Sensaphone.

8.3.1 Single Thermostat Control

There are two installation methods that can be used to remotely change the thermostat setting in your cottage or cabin; the single thermostat method and the dual thermostat method (see section 8.3.2 for details on the dual thermostat method). The single thermostat method requires you to install a model with an input to switch between two temperature settings. Sensaphone offers a 7-day programmable thermostat and power supply which has this feature (order part #'s FGD-0064 & XFR-0024). This thermostat has been carefully chosen to work with the model 800 to allow remote control between normal or vacation mode. You will need to replace your current thermostat, so if you are unsure about performing this work yourself, please contact a licensed heating/cooling professional for installation assistance. Follow the manufacturer's instructions for installing the thermostat.

The Model 800 will need to be wired to the thermostat to control it. For a visually appealing installation you may want to locate the Sensaphone close to your heater so that the cable follows the same path as the one from your heater to the thermostat. An added benefit of this location is that you can easily add a water sensor to monitor for leaks around your hot water heater or other plumbing. Typically the water heater is located near the heating and cooling system.

Step 1: Install the thermostat.

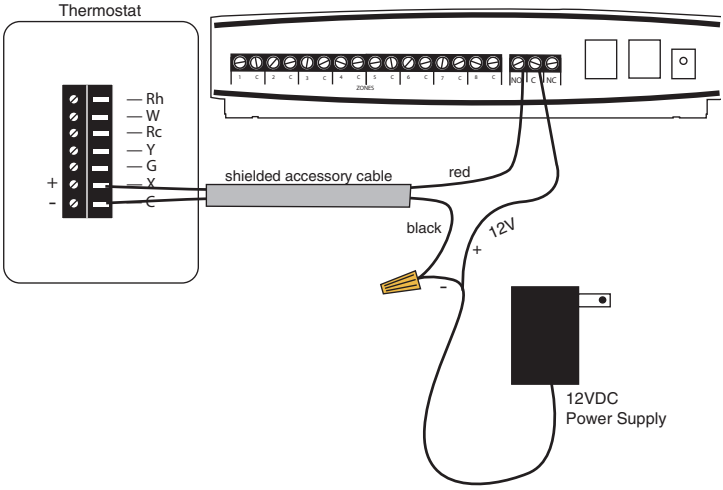
Refer to the manufacturer's instructions for installation. For installation assistance, contact Aube Technologies at 1-800-831-AUBE.

Step 2: Mount the Sensaphone 800.

Choose a location for your Sensaphone that allows for easy wiring to the thermostat, such as near your heater/air conditioning system. Mount the unit on a wall or flat on a desktop or table surface. Plug in the power supply and connect the telephone line.

Step 3: Connect cable from thermostat to Sensaphone 800.

This Sensaphone 800 has a terminal strip below the input/output wiring door that will connect to the 12VDC power supply and X & C terminals of the thermostat (See Figure 1). This connection is required to switch the thermostat between normal and vacation modes. Run a two-conductor cable from the thermostat to the Model 800. On the thermostat, connect the red wire to the X (+) terminal, and the black wire to the C (-) terminal. On the 800, connect the red wire to the NO terminal. Connect the black wire to the negative wire from the power supply. Use a wire nut to complete this connection. Connect the positive wire from the power supply to the "C" terminal on the model 800.



Step 4: Program the Thermostat.

Refer to the manufacturers instructions for programming the thermostat. Be sure to program settings for both normal and vacation modes.

Controlling the Thermostat

The operating mode of the thermostat *(normal/vacation)* can be controlled at the Model 800 keypad or remotely via Touch-Tone commands. Both methods are described below:

Keypad commands:

1) To enable *Vacation* Mode, press the [SENSOR ON/OFF] key, then the [OUTPUT] key. The unit will respond by saying "ON" to indicate that *Vacation* Mode is set. The *Suitcase* icon  will appear and blink on the thermostat LCD.

2) To enable *Normal* Mode, press the [SENSOR ON/OFF] key, then the [OUTPUT] key. The unit will respond by saying "OFF" to indicate that *Normal* Mode is set. The *Sun*  *or Moon*  icon will appear on the thermostat LCD.

TouchTone Commands:

Call the Sensaphone. When the unit answers, it will begin reciting a status report. At any time during the call, press a Touch-Tone. The unit will respond with "OK." The Sensaphone is now ready to accept Touch-Tone commands.

1) To enable Vacation Mode, press SRO (776). The unit will respond by saying "ON" to indicate that Vacation Mode is set. The *Suitcase* icon  will appear and blink on the thermostat LCD.

2) To enable Normal Mode, press SRO (776). The unit will respond by saying "OFF" to indicate that Normal Mode is set. The *Sun*  *or Moon*  icon will appear on the thermostat LCD.

3) To check the status of the ouput press WRO (976). The unit will respond "OFF" for Normal Mode or "ON" for Vacation Mode.

4) Hang up.

8.3.2 Dual Thermostat Control

When a three or four wire low voltage thermostat is used, it is easy to connect the Sensaphone to your furnace with the addition of a secondary thermostat. One thermostat is set to your preferred "away" temperature and the other thermostat is set to your

preferred "home" temperature. With your Sensaphone 800, you will be able to switch between these two thermostats using the relay output.

Ideally, the "away" thermostat would be in your pump or furnace room. Remember that your "away" thermostat will be the only thermostat that keeps your cottage or cabin at minimal heat while you are away. It should not be located near a window or where direct sunlight might warm it, near a furnace radiator or vent, or any heat source such as a pilot light.

The second thermostat, the one pre-set for your preferred temperature when you arrive at your cottage or cabin, should be located in your normal living space. This would likely be your existing thermostat, already located in a suitable location by your heating professional at the time your furnace was installed.

By connecting these two thermostats together in a parallel fashion, and by passing the low voltage supply through the Sensaphone *(See Figure 1)*, you can remotely or locally decide which thermostat is in control of your furnace.

It is recommended that the "away" thermostat be connected to the NC (Normally Closed) terminal while the "home" thermostat be connected to the N0 (Normally Open) terminal of the Sensaphone. This way, it's easy to understand which state your furnace is in: *Output ON = Home* and *Output OFF = Away*. The supply voltage from your furnace (typically the wire labeled R or 24VAC), should always be connected to the C (Common) terminal on the 800.

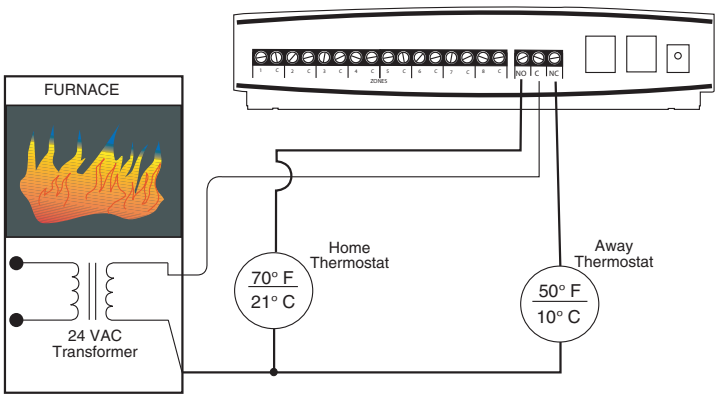


Figure 1: Dual Thermostat Setup

Note: This is a typical configuration when using standard single-zone heat/cool thermostats. For ease of-use it is recommended that both thermostats be the same model. Note also that all thermostats may not be compatible with the dual-thermostat wiring diagram. Consult your heating/cooling professional for installation assistance.

8.3.3 Controlling Lights Or Other Devices

Using X10 technology, you can remotely activate any electrical device or appliance in your home through your Sensaphone. X10 technology is a suite of control modules that plug into your existing electrical outlets and transmit coded signals to lamps, lights, and appliances to turn them on or off (See Figure 2).

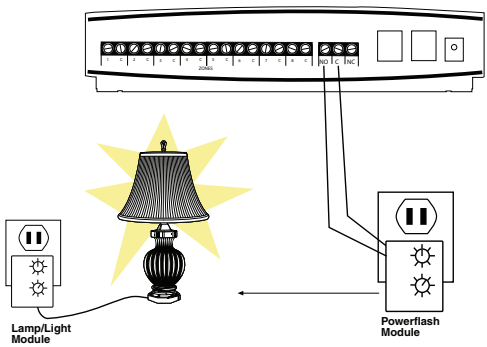


Figure 2: X10 Lighting Control Setup

Sensaphone supports these devices through use of the popular X10 Powerflash relay interface. To learn more about this technology, consult X10 products on the web at www.x10.com or visit your local electronics shop such as Radio Shack.

Such applications may include turning on a lamp or exterior lights remotely from your cellular telephone when arriving at your residence late at night. Or you can use the X10 Powerflash Module (set to momentary contact) in conjunction with the X10 Universal Module to remotely control your electric garage door opener over the telephone—an ideal way of letting in your service personnel without being on-site. You may also use the X10 technology to send the ON/OFF signal to a furnace or heater if your thermostat is not easy to wire directly.

Finally, in addition to remotely controlling devices, X10 technology lets you extend the reach of certain Sensaphone

sensors such as door contacts, motion sensors, or water sensors. This is of great benefit where it is impossible to wire directly from your sensors to your Sensaphone. Consult a qualified electrician or your heating professional for assistance with locating your remote sensors or contact your Sensaphone dealer.

Appendix A: Weekly Testing Procedure

We recommend that you test your Sensaphone weekly to be sure it is functioning properly. This will ensure that when a problem arises the Sensaphone will be ready to alert the appropriate personnel.

There are several tests that can be performed:

1) Call the unit and listen to the Status Report. This will test the unit's ability to answer the phone and speak a message. It will also verify that all of the zones are reading properly, the alarm conditions are OK, the electricity is on, the microphone is functioning, and the batteries are OK.

2) Create an alarm on each zone by tripping all connected sensors.

   Temperature sensors: Heat or cool the sensor.

   Motion sensors: Have someone walk in front of the sensor.

   Door/window sensors: open the door/window.

   Water sensors: Apply a small amount of water beneath the sensor or use a wet towel and touch it to the sensor probes.

   Humidity sensors: Raise the humidity around the sensor by holding a cup of very hot water beneath the sensor.

   Allow the unit to contact all programmed telephone numbers. This will make sure that the Sensaphone is programmed properly. It will also prepare personnel to respond appropriately when they receive a call from the Sensaphone.

3) Test the batteries by unplugging the AC adapter and making sure that the Sensaphone continues to function. Press WHAT IS, then STATUS on the keypad, and listen to the status report. Make sure the report states that *"the power is off"* and *"batteries are OK."* Keep the AC adapter unplugged so that a Power Failure alarm occurs. Allow the unit to dial all programmed telephone numbers while running on battery backup. Plug in the AC adapter after the unit has finished dialing all of the telephone numbers.

4) If you are using your Sensaphone to listen for a smoke alarm, then be sure to test the smoke alarm to make sure that the Sensaphone picks up the audible signal and triggers a high-sound-level alarm. Allow the unit to dial all programmed telephone numbers.

5) Keep a log of your tests, noting the date and whether the 800 passed in each category tested. An example of such a log is shown below. *(See "Test Log" at the end of this manual.)*

800 Test Log

Date	Inputs		Dialout		Call-in		Tested by
	Pass	Fail	Pass	Fail	Pass	Fail	
7/1/04	☒	☐	☒	☐	☒	☐	Bob H
7/15/04	☒	☐	☒	☐	☒	☐	Alex G.
7/22/04	☒	☐	☒	☐	☒	☐	Bob H.
	☐	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	☐	

If you require assistance, call Sensaphone Technical Support at 610-558-2700.

Appendix B: Troubleshooting

In the event that a problem is encountered, this section will assist you in determining the cause, so you can return the unit to its usual monitoring routine with minimal interruption.

Most problems with the Model 800 are easy to identify and quickly corrected, and are found under the following general headings:

- Error Messages
- Communications/dial-out functions
- Temperature monitoring
- Sound level monitoring
- Other monitoring functions

If you have tried the solutions outlined in this section and are not satisfied with the results, call Sensaphone Technical Support at 610-558-2700, or follow the guidelines for shipping the Model 800 to SENSAPHONE for repair (see Appendix F).

Error Messages

Problem	Cause	Solution
1. The unit says "Error 1."	An invalid value has been entered or too much time has passed without entering a value.	Only enter values within the allowed programming range, and make programming changes in a timely fashion.
2. The unit says "Error 2."	Programming changes were attempted without unlocking the keypad.	Unlock the keypad, then make programming changes.

Communications / Dial-out:

Problem	Cause	Solution
1. The Model 800 fails to dial out.	a) The telephone number may be incorrectly programmed.	Recheck programming steps. Refer to Chapter 4, Section 4.2.1.
	b) Tone or pulse (the current dialing method) is not compatible with the telephone line on which the Model 800 is installed.	Switch from the current setting: from tone to pulse, or from pulse to tone. Refer to Chapter 4, Section 4.3.
	c) Recognition Time is too long. An alert condition does not remain in effect long enough to become a valid alarm.	Reprogram Recognition Time. Set the Recognition Time to the minimum duration required to create a valid alarm. If possible, test the new setting by deliberately creating an alert condition. Refer to Chapter 5, Section 5.3.

Communications / Dial-out:

Problem	Cause	Solution
	e) The Model 800 is connected to an incompatible telephone line.	The Model 800 must be connected to a standard (2-wire analog) telephone line, not a digital extension to a phone system. If the unit will not dial out and the factors previously listed have been ruled out, try connecting the unit to a standard residential telephone line.
2. The Model 800 will not answer the telephone when called for a Status Report or alarm acknowledgment.	a) Rings Until Answer is incorrectly programmed.	Recheck programming of Rings Until Answer. Refer to Chapter 4, Section 4.5.1.
	b) The Model 800 is connected to an incompatible telephone line.	Some telephone systems will not allow the telephone to ring beyond 4 rings. If your Model 800's Rings Until Answer is set at more than 4 rings, you may not be able to access the unit. Try setting the Rings Until Answer to less than 4 rings. If this does not correct the problem, it may indicate telephone line incompatibility. In this case, try connecting the Model 800 to a standard, residential telephone line.

3. The Model 800 will not answer the telephone for Callback Acknowledgement.	You did not allow the telephone to ring 10 times. Note: If the TAD (telephone answering device) is disabled, the telephone rings ten times before the Model 800 answers. If the TAD is enabled, you must call the unit and let the line ring once, then hang up, wait ten seconds and call back again within 30 seconds.	When calling the Model 800, and the TAD is disabled, allow the telephone to ring 10 times. Refer to Chapter 6, Section 6.1.3, and Chapter 4, Section 4.6.3.
4. The Model 800 recites the alarm message or Status Report over the telephone, but is silent at the installation site.	The local voice mute feature is in effect.	Deactivate local voice mute. Refer to the programming steps in Chapter 4, Section 4.9.
5. The Model 800 and telephone answering device (sharing the same line) answer incoming calls simultaneously.	The Model 800's number of Rings Until Answer is set to equal the number of rings set for the telephone answering device.	Change the number of Rings Until Answer for the Model 800. Refer to Chapter 4, Section 4.5.

Temperature Monitoring:

Problem	Cause	Solution
1. Can't program temperature limits; or the unit won't read the temperature sensor.	The zone isn't configured to read a temperature sensor.	Press SET and CONFIGURE to program the zone. (See Section 5.1.1 for more information on configuring zones.)
2. The temperature reading is -20° F or -30° C.	The temperature sensor has been disconnected or has broken wires.	Examine the wires to temperature sensor and connect or replace wiring.
3. Temperature reads 150° F or 65° C.	Temperature sensor wires are touching or have shorted.	Verify and correct wiring.
4. Temperature reading is inaccurate.	a) Temperature sensing may be affected by a source of ambient heat (ie., direct sunlight, or heat duct proximity).	Try moving the unit to a different location.
	b) Temperature may require calibration.	After moving or placing the unit away from ambient heat sources, the temperature may be calibrated to offset inaccurate normal reading by several degrees. Refer to Chapter 5, Section 5.6.
	c) The unit is using the wrong temperature scale (Fahrenheit vs. Celsius).	Verify temperature scale. Refer to Chapter 5, Section 5.5.

5. False high temperature alarms from freezer.	Most freezers have a defrost cycle during which the temperature will rise considerably, thus causing an alarm to occur.	Program an zone recognition time longer than the defrost cycle.
6. The Sensaphone calls with a high/ low temperature alarm but recites a temperature that's within the programmed limits.	The Sensaphone recites the "current" temperature when it calls you, not the temperature at the time the alarm occurred. It is likely that the temperature has changed since the time the alarm was detected and has since returned to normal operating conditions.	Shorten the Call Delay or lengthen the Zone Recognition Time.

Sound Level Monitoring:

Problem	Cause	Solution
1. False high sound alarms occur frequently.	The programmed sound sensitivity results in over-sensitivity to non-alarm sound as well as alarm sound.	Reprogram the sound sensitivity. Refer to Chapter 5, Section 5.10.
	Sound Recognition Time is too short.	Lengthen the sound Recognition Time. Refer to Chapter 5, Section 5.10.
2. High sound does not cause an alarm.	The unit is not close enough to the high sound source, or the programmed sound setting results in a lack of sensitivity to high sound.	Move the unit closer or reprogram the sound sensitivity. Refer to Chapter 5, Section 5.10.

Other Monitoring:

Problem	Cause	Solution
1. Alarm status of an alert zone is incorrect.	Incorrect zone normality.	Reconfigure the zone. Refer to Chapter 5, Section 5.1.
2. False power out alarms	Programmed Recognition Time is too short.	AC power is often subject to brief interruptions. To avoid frequent, false alarms, increase the power Recognition Time. Refer to Chapter 5, Section 5.9.
3. The Model 800 does not recognize power failure.	a) Batteries are either incorrectly installed or drained.	To verify proper battery function, unplug the unit and verify continued operation using batteries only. If unit ceases to function, first try reinstalling the batteries. If this is not successful, replace the batteries. Refer to Chapter 2, Section 2.4 for complete instructions.
	b) Recognition time setting is too long.	Reprogram Recognition Time. Set the Recognition Time to the minimum required before a valid alarm occurs. If possible, test the condition by deliberately creating an alert condition. Refer to Chapter 5, Section 5.9.

4.	The Model 800 does not recognize any alarm.	a) Zones for alarm are disabled.	Enable the zones for alarm. Refer to Chapter 5, Section 5.2.
		b) Programmed Recognition Time is too long.	Reprogram Recognition Time. Set the Recognition Time to the minimum required for a monitored condition to become a valid alarm. If possible, test the condition by deliberately creating an alert condition. Refer to Chapter 5, Section 5.3.
5.	The batteries drain prematurely.	The unit's AC transformer is unplugged or for some other reason, full AC power is not available to the unit.	The batteries will take over powering the unit when the AC transformer is unplugged from the 120 VAC outlet. When storing the unit, be sure to remove the batteries. Refer to Chapter 2, Section 2.4. *Be sure to use alkaline batteries—do not use rechargeable batteries.*

If the solutions offered above do not appear to correct the problem, apply the following steps, in the order shown.

- Remove the batteries.
- Unplug the unit.
- Wait one minute for the Model 800 to completely power down.
- Plug in the unit's AC adaptor into a standard 120 VAC outlet.
- Replace the batteries.

Refer to Chapter 2, Installation, for additional information on batteries and installation procedures.

Appendix C: 800 QUICK REFERENCE

Parameter	Description	Key Sequence*	Range	Default
Call Delay	Time delay until first call is made	[SET] or [WHAT IS] + [CALL DELAY]	Min: 00:00 Max 60:00 (min:sec)	00:30 (min:sec)
Voice Reps	Number of times alarm message is repeated over the phone	[SET] or [WHAT IS] + [VOICE REPS]	Min: 1 rep Max: 10 reps	3 reps
Intercall Time	Time delay between phone calls	[SET] or [WHAT IS] + [INTERCALL TIME]	Min: 00:10 Max: 60:00 (min:sec)	01:00 (min:sec)
Max Calls	Number of calls until unit self-acknowledges	[SET] or [WHAT IS] + [MAX CALLS]	Min: 1 call Max: 255 calls	100 calls
Temp Limits	High and low temperature alarm limits	[SET] or [WHAT IS] + [TEMP LIMITS] + [zone #]	Min: -20°F/-30°C Max: 150°F/65°C	Low: 10°F High:100°F
Calibrate	Temperature Correction factor	[SET] or [WHAT IS] + [CALIBRATE] + [zone #]	Min: -10° Max: 10°	0°
Recognition Time: zones 1–8	Length of time a fault condition must exist to trip an alarm	[SET] or [WHAT IS]+ [RECOGNITION TIME]	Min: 00:00 Max: 540:00 (min:sec)	00:03 (min:sec)
Recognition Time: Power Failure	Length of time the power must be off to trip an alarm	[SET] or [WHAT IS] +[RECOGNITION TIME]+[POWER]	Min: 0:00 Max: 540:00 (min:sec)	05:00 (min:sec)
Recognition Time: High Sound Level	Length of time the sound must be high to trip an alarm	[SET] or [WHAT IS] +[RECOGNITION TIME]	Min: 5 Max: 60 (sec)	00:08 (min:sec)
Clock	Real time clock	[SET] or [WHAT IS] + [CLOCK] + [time] + [AM] or [PM]		12:00 AM
High Sound Level Alarm Sensitivity	Microphone sensitivity for high sound level alarm	[SET] or [WHAT IS] + [CALIBRATE] + [SOUND]	Min: 1 unit Max: 160 units	32 units
Listen Time	Length of listen-in time during call-in status report	[SET] or [WHAT IS] + [LISTEN TIME]	Min: 0 sec Max: 255 sec	15 sec
Rings Until Answer	Number of rings until unit answers an incoming call	[SET] or [WHAT IS] + [RING]	Min: 1 ring Max: 15 rings	4 rings

* press [ENTER] after all Key Sequences starting with [SET]

Parameter	Description	Key Sequence*	Range/ Response	Default
TAD	Telephone Answering Device Compatibility	[SENSOR ON/OFF] + [TAD]	Enable / Disable	Disabled
ID Number	Sets the unit's telephone number	[SET] + [ID NUMBER]	0-16	
Dialout Test	Permits testing of dialout Telephone numbers	[SET] + [TEST]+ [1-8]	1-8	
Output Mode	Sets the relay output Mode	[SET] + [OUTPUT]	1-8, *, #, PHONE	Manual
Output Control	Switches the relay output On or Off (manual mode)	[SENSOR ON/OFF] + [OUTPUT]		Off
Voice Message	Program or recite voice messages	[SET] or [WHAT IS] + [MESSAGE]+ RECOGNITION TiME] + [zone#]	0-8	
Zone Configuration	Program or recite zone configuration	[SET] or [WHAT IS] +[CONFIG]	temp, NO, NC	No
Call Progress	Turns call progress Detection on or off	[SENSOR ON OFF] + [CONFIG]	Enable / Disable	Enabled
Telephone Number	Program or recite dialout telephone numbers	[SET] + [PHONE NUMBER] + [1-8]		
Status Report	Recites a Status Report	[WHAT IS] + [STATUS]		
Run/Standby Mode	Changes the operating mode between run and standby	[RUN/STANDBY]		Run

Parameter	Description	Key Sequence	Response	Default
Speaker Mute	Turns off the speaker during alarm conditions	[SENSOR ON/OFF] + [MUTE]	On or Off	off
Designating a Zone Unused	Removes the zone from status and alarm reports	[SENSOR ON/OFF] + [SET} + {zone #]	On or Off	on
Zone Enable/ Disable	Turns zone alarm detection on or off	[SENSOR ON/OFF] + [zone#]	Enabled / Disabled	Enabled
Power Alarm Enable/Disable	Turns power alarm detection on or off	[SENSOR ON/OFF] + [POWER]	Enabled / Disabled	Enabled
Sound Alarm Enable/Disable	Turns high sound level alarm detection on or off	[SENSOR ON/OFF] + [SOUND]	Enabled / Disabled	Enabled
Temperature Scale	Selects between Fahrenheit and Celsius	[SENSOR ON/OFF] + [F/C]	Fahrenheit or Celsius	Fahrenheit
Security Code	Prohibits programming changes	[SET] or [WHAT IS] + [CODE] + [4 digit code]		none
Callback Acknowledgment	Turns Callback Acknowledgment on or off	[SENSOR ON/OFF] + [PHONE]	Enabled / Disabled	Disabled

Appendix D: Accessories

The sensors listed below are available from Sensaphone, and represent the most commonly used zone devices. Other dry contact sensors, designed for more specialized applications, may also be used. Commercial or industrial electrical supply houses can provide devices to monitor virtually any condition. For further information, contact Sensaphone Customer Service at 610-558-2700.

PART #	SENSOR / SWITCH
FGD-0006	Magnetic Reed Switch
FGD-0007	Passive Infra-Red Detector
FGD-0010	50' two-conductor #22AWG shielded Cable
FGD-0013	Spot Water Detector
FGD-0022	Temp° Alert
FGD-0023	ISOTEL Surge Protector
FGD-0027	Humidistat
FGD-0049	Smoke Detector with Built-in Relay
FGD-0054	Power-Out Alert™
FGD-0056	Zone Water Detector w/Water Rope
FGD-0063	Additional 10' Water Rope for FGD-0056
FGD-0064	Programmable Thermostat with Remote Setback
XFR-0024	12VDC Power Supply for Thermostat
FGD-0100	Remote Temperature Sensor
FGD-0101	Weatherproof Temperature Probe
FGD-0205	Multi-Point Wireless I/O System

Appendix E: Specifications

Alert Zones

Number of Zones: 8 (thermistor installed on zone #1 for local temperature monitoring)

Zone Connector: terminal block

Zone Types: N.O./N.C. contact, 2.8K thermistor (-20° F to 150° F or -30° C to 65° C)

Zone Characteristics: 5.11K to 2.85V (Short circuit current: 1mA max.)

A/D Converter Resolution: 10 bits ±2 LSB

Zone Protection: 5.5VDC Metal Oxide Varistor with fast acting diode clamps.

Microphone

Internal Electret Condenser: For listening in to on-site sounds and detecting high sound levels.

Phone Interface

Line RJ11 Jack: For connection to a two-wire analog telephone line. (6' modular cord included)

Extension RJ11 Jack w/ Line Seizure: For connecting other devices on the same telephone line, devices connected to this jack are disconnected in the event that the 800 must dial out for an alarm.

Phone Line Protection: Metal Oxide Varistor & self-resetting fuse

LED Indicator

System On: On steady when the unit is in RUN mode. LED blinks once every few seconds while in STANDBY mode.

Phone In Use: On steady when the telephone line is being used. LED blinks when no dial tone is detected. Off when telephone line is not in use.

Alarm: Off when no alarm exists. Blinks when an unacknowleged alarm exists. On steady when an acknowledged alarm exists

Battery Ok: On steady when the battery is in good condition. Blinks when the battery is low. Off when the battery must be replaced.

Relay Output

Rated for 1A 30VAC/1A 30VDC maximum.

Power Supply

Power Supply: 120VAC/12VDC 60Hz 6W wall plug-in transformer w/6' cord.

Power Consumption: 1.5 Watts

Power Protection: Metal Oxide Varistor

Battery Backup: Six size-C alkaline batteries (not included), providing up to 24 hours of back-up time.

Environmental

Operating Temperature: 32–122° F (0–50° C)

Operating Humidity: 0–90% RH non-condensing

Storage Temperature: 32°–140° F (0–60° C)

Physical

Dimensions: 2.1"h x 7.8"w x 8.8"d

Weight: 2 lbs.

Enclosure: Indoor-rated plastic housing suitable for wall or desktop installation.

Standards

- FCC Part 15 Class B, USA Emission Standards

- FCC Part 68 (47 C.F.R. Part 68), USA Telecommunications Standards

- ICES-003 Issue 4 Class B, Canadian Emission Standards

- Complies with CS-03 Issue 8, Canadian Telecommunications Standards

- NRTL Listed for compliance to UL60950-1, USA Safety Standards

- NRTL Listed for compliance to CSA C22.2 No. 60950-1, Canadian Safety Standards

Appendix F: Returning the Unit for Repair

In the event that the Model 800 does not function properly, we suggest that you do the following:

1) Record your observations regarding the Model 800's malfunction.

2) Call the Technical Service Department at 610-558-2700 prior to sending the unit to Sensaphone for repair.

If the unit must be sent to Sensaphone for Servicing, please do the following:

1) Unplug the AC power supply from the wall outlet, remove the batteries, and disconnect all sensors from the alert zones.

2) Carefully pack the unit to avoid damage in transit. Use the original container (if available) or a sturdy shipping box.

3) **You must include the following information to avoid shipping delays:**

   a) Your name, address and telephone number.

   b) A note explaining the problem.

4) Ship your package to the address below:

SERVICE DEPARTMENT
Sensaphone
901 Tryens Road
Aston, PA 19014

5) Ship prepaid and insured via UPS or US Mail to ensure a traceable shipment with recourse for damage or replacement.

Test Log

Date	Inputs		Dialout		Call-In		Battery				Tested By
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	

Date	Inputs		Dialout		Call-In		Battery				Tested By
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	

Attachment 15 - Alarm Conditions

Alarm Conditions
Solutia Judith Lane

Alarm	Alarm Description	Technicians Alerted by Phone Call	Message Received
Zone 1 - No Flow Alarm	Alarm signifies a "no flow" condition at one of the three pumps. This would also signify a pump fail condition.	Andy Day Brennan Richter Nathan McNurlen	"Zone 1 - No Flow Alarm"
Zone 2 - High Level Pump Alarm	Alarm signifies water level is at or above the high level alarm set point for one of the three pumps.	Andy Day Brennan Richter Nathan McNurlen	"Zone 2 - High Level Pump Alarm"
Zone 3 - Transducer Fail Alarm	Alarm signifies a transducer failure.	Andy Day Brennan Richter Nathan McNurlen	"Zone 3 - Transducer Fail Alarm"
Zone 4 - Leak Detection Alarm	Alarm a water leak in the metering house building.	Andy Day Brennan Richter Nathan McNurlen	"Zone 4 - Building Leak Alarm"
Zone 5 - Door Open Alarm	Alarm signifies the door to the metering house is in the open position.	Andy Day Brennan Richter Nathan McNurlen	"Zone 5 - Door Open Alarm"
Zone 6 - Low Temperature Alarm	Alarm signifies low tempature condition (<42°F)	Andy Day Brennan Richter Nathan McNurlen	"Zone 6 - Low Temperature Alarm"
Zone 7 - Power Failure Alarm	Alarm signifies a power failure.	Andy Day Brennan Richter Nathan McNurlen	"Zone 7 - Power Failure Alarm"

Attachment 16 - Waste Manifests

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
ILD 980 792 006	1	[illegible]	016683915 JJK

GENERATOR

5. Generator's Name and Mailing Address: SOLUTIA INC
675 MARYVILLE CENTRE DRIVE
ST. LOUIS, MO 63141
Generator's Phone: (314) 674-1161

Generator's Site Address (if different than mailing address)
15 JUDITH LANE
CAHOKIA, IL 62203

6. Transporter 1 Company Name: [illegible]
U.S. EPA ID Number: [illegible]

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address: WAYNE DISPOSAL, INC. SITE #2 LANDFI
49350 N I-94 SERVICE DRIVE
BELLEVILLE, MI 48111
Facility's Phone: (800) 592-5489
U.S. EPA ID Number: MID 048 090 633

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. UN3432, Polychlorinated biphenyls, solid, 9, PGII, ERG #171	1	[illegible]	[illegible]	K	PCB1
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1 CUBE26WDI / Soil
Unique Container ID# 21037 Storage Start Date 12/21/16

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William G. Johnson
Signature: [signature]
Month: 12 Day: 21 Year: 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: [illegible]
Signature: [signature]
Month: 12 Day: 21 Year: 16

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
PCB			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD 980 792 006
2. Page 1 of: 1
3. Emergency Response Phone:
4. Manifest Tracking Number: 016683925 JJK

GENERATOR

5. Generator's Name and Mailing Address: SOLUTIA INC
575 MARYVILLE CENTRE DRIVE
ST. LOUIS, MO 63141
Generator's Phone: (314) 674-1161

Generator's Site Address (if different than mailing address)
15 JUDITH LANE
CAHOKIA, IL 62203

6. Transporter 1 Company Name: [illegible]
U.S. EPA ID Number: [illegible]

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: WAYNE DISPOSAL, INC SITE #2 LANDFI
49350 N I-94 SERVICE DRIVE
BELLEVILLE, MI 48111
Facility's Phone: (800) 592-5489
U.S. EPA ID Number: MID 048 090 633

9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. UN3432, Polychlorinated biphenyls, solid, 9, PGII, ERG #171	1	[illegible]	[illegible]	K	PCB1
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
T 11641 05WDI / Soil
Unique Container ID#: 20123 Storage Start Date: 12/21/16

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Gr. Johnson
Signature: [signature]
Month: 12 Day: 21 Year: 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: [illegible]
Signature: [signature]
Month: 12 Day: 21 Year: 16

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
PCB			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name:
Signature:
Month: Day: Year:

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD 980 792 006
2. Page 1 of: 1
3. Emergency Response Phone:
4. Manifest Tracking Number: 016683926 JJK

5. Generator's Name and Mailing Address: SOLUTIA INC
575 MARYVILLE CENTRE DRIVE
ST. LOUIS, MO 63141
Generator's Phone: (314) 674-1161

Generator's Site Address (if different than mailing address)
15 JUDITH LANE
CAHOKIA, IL 62203

6. Transporter 1 Company Name:
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: WAYNE DISPOSAL, INC. SITE #2 LANDFI
49350 N I-94 SERVICE DRIVE
BELLEVILLE, MI 48111
Facility's Phone: (800) 592-5489
U.S. EPA ID Number: MID 048 090 633

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. UN3432, Polychlorinated biphenyls, solid, 9, PGII, ERG #171	1			K	PCB1
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1 1164136WDI / Soil
Unique Container ID# 30157 Storage Start Date: 11/2/16

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William G. Johnson
Signature:
Month: 12 Day: 21 Year: 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jane A. Sims
Signature:
Month: 12 Day: 21 Year: 16
Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
PCB			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Signature: Month: Day: Year:

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD 980 792 006
2. Page 1 of: 1
3. Emergency Response Phone:
4. Manifest Tracking Number: 016683917 JJK

GENERATOR

5. Generator's Name and Mailing Address: SOLUTIA INC
575 MARYVILLE CENTRE DRIVE
ST. LOUIS, MO 63141
Generator's Phone: (314) 674-1161

Generator's Site Address (if different than mailing address)
15 JUDITH LANE
CAHOKIA, IL 62203

6. Transporter 1 Company Name:
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: WAYNE DISPOSAL, INC. SITE #2 LANDFI
49350 N I-94 SERVICE DRIVE
BELLEVILLE, MI 48111
Facility's Phone: (800) 592-5489
U.S. EPA ID Number: MID 048 090 633

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. UN3432, Polychlorinated biphenyls, solid, 9, PGII, ERG #171	1			K	PCB1
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. L16412BWDI / Seal
Unique Container ID# 20186 Storage Start Date

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: [illegible] Johnson
Signature:
Month: 12 Day: 14 Year: 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: ALEX SOJ
Signature:
Month: 12 Day: 14 Year: 16

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
PCB			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name:
Signature:
Month: Day: Year:

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD 980 992 006
2. Page 1 of: 1
3. Emergency Response Phone:
4. Manifest Tracking Number: **016683924 JJK**

GENERATOR

5. Generator's Name and Mailing Address: SOLUTIA INC
575 MARYVILLE CENTRE DRIVE
ST. LOUIS, MO 63141
Generator's Phone: (314) 674-1161

Generator's Site Address (if different than mailing address)
15 JUDITH LANE
CAHOKIA, IL 62203

6. Transporter 1 Company Name: [illegible]
U.S. EPA ID Number: [illegible]

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: WAYNE DISPOSAL, INC. SITE #2 LANDFI
49350 N I-94 SERVICE DRIVE
BELLEVILLE, MI 48111
Facility's Phone: (800) 592-5489
U.S. EPA ID Number: MID 048 090 633

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. UN3432, Polychlorinated biphenyls, solid, 9, PGII, ERG #171	1	[illegible]	[illegible]	K	PCB1
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. L164126WDI / Soil
Unique Container ID: 2041 Storage Start Date: [illegible]

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, markod and labeled/placarded, and are in all respects in proper condition for transport according to applicable International and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William G. Johnson
Signature: [signature]
Month: 12 Day: 19 Year: 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: APX SLOW
Signature: [signature]
Month: 12 Day: 19 Year: 16

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
PCB			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name:
Signature:
Month: Day: Year:

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD 980 792 006
2. Page 1 of: 1
3. Emergency Response Phone:
4. Manifest Tracking Number: **016683916 JJK**

GENERATOR

5. Generator's Name and Mailing Address: SOLUDA INC
575 MARYVILLE CENTRE DRIVE
ST. LOUIS, MO 63141
Generator's Phone: (314) 674-1161

Generator's Site Address (if different than mailing address)
15 JUDITH LANE
CAHOKIA, IL 62203

6. Transporter 1 Company Name: Waste Services
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: WAYNE DISPOSAL, INC. SITE #2 LANDFI
49350 N I-94 SERVICE DRIVE
BELLEVILLE, MI 48111
Facility's Phone: (800) 592-5489
U.S. EPA ID Number: MID 048 090 633

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. UN3432, Polychlorinated biphenyls, solid, 9, PGII, ERG #171	1	[illegible]	[illegible]	K	PCB1
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. L164126WDI / Soil
Unique Container ID# 20856 Storage Start Date: [illegible]

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William G. Johnson
Signature: [signature]
Month: 12 Day: 19 Year: 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: [illegible]
Signature: [signature]
Month: 12 Day: 19 Year: 16

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
PCB			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name:
Signature:
Month: Day: Year:

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD 980 792 006
2. Page 1 of: 1
3. Emergency Response Phone: 800 424-7500
4. Manifest Tracking Number: 016683922 JJK

GENERATOR

5. Generator's Name and Mailing Address: SOLUTIA INC
575 MARYVILLE CENTRE DRIVE
ST. LOUIS, MO 63141
Generator's Phone: (314) 674-1161

Generator's Site Address (if different than mailing address)
15 JUDITH LANE
CAHOKIA, IL 62203

6. Transporter 1 Company Name: Midwest Sanitary
U.S. EPA ID Number: ILD053980272

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: WAYNE DISPOSAL, INC. SITE #2 LANDFI
49350 N I-94 SERVICE DRIVE
BELLEVILLE, MI 48111
Facility's Phone: (800) 592-5489
U.S. EPA ID Number: MID 048 090 633

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. UN3432, Polychlorinated biphenyls, solid, 9, PGII, ERG #171	1	DF	1000	K	PCB1
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. L16412GWD1 / Soil
Unique Container ID# 20874 Storage Start Date 11/2/16

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William E. Johnson
Signature
Month: 12 Day: 19 Year: 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Signature: Month: Day: Year:

Transporter 2 Printed/Typed Name: Signature: Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
PCB			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Signature: Month: Day: Year:

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD 980 792 006
2. Page 1 of: 1
3. Emergency Response Phone: 800-424-9300
4. Manifest Tracking Number: 016683921 JJK

GENERATOR

5. Generator's Name and Mailing Address: SOLUTIA INC
575 MARYVILLE CENTRE DRIVE
ST. LOUIS, MO 63141
Generator's Phone: (314) 674-1161

Generator's Site Address (if different than mailing address)
15 JUDITH LANE
CAHOKIA, IL 62203

6. Transporter 1 Company Name: Midwest Sanitary
U.S. EPA ID Number: ILD053190272

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: WAYNE DISPOSAL, INC. SITE #2 LANDFI
49350 N I-94 SERVICE DRIVE
BELLEVILLE, MI 48111
Facility's Phone: (800) 592-5489
U.S. EPA ID Number: MID 048 090 633

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. UN3432, Polychlorinated biphenyls, solid, 9, PGII, ERG #171	1	DM	1,000	K	PCB1
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. L164126WDI / Soil
Unique Container ID# 20500 Storage Start Date 11/2/16

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William G. Johnson
Signature:
Month: 12 Day: 19 Year: 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name:
Signature:
Month: 12 Day: 19 Year: 16

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
PCB			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name:
Signature:
Month: Day: Year:

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ILD 980 792 006
2. Page 1 of 1
3. Emergency Response Phone: 800 424 1500
4. Manifest Tracking Number: 016683923 JJK

5. Generator's Name and Mailing Address: SOLUTIA INC. 575 MARYVILLE CENTRE DRIVE ST. LOUIS, MO 63141
Generator's Site Address (if different than mailing address): 15 JUDITH LANE CAHOKIA, IL 62203
Generator's Phone: (314) 674-1161

6. Transporter 1 Company Name: Midwest Sanitary — U.S. EPA ID Number: ILD053980272
7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: WAYNE DISPOSAL, INC SITE #2 LANDFI 49350 N I-94 SERVICE DRIVE BELLEVILLE, MI 48111 — U.S. EPA ID Number: MID 048 090 633
Facility's Phone: (800) 592-5489

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. UN3432, Polychlorinated biphenyls, solid, 9, PGII, ERG #171	1	[illegible]	11,000	K	PCB1
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. L164126WDI / Soil
Unique Container ID# 20474 Storage Start Date 11/2/16

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William G. Johnson — Signature: [signature] — Month 12 Day 14 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: [illegible] — Signature: [signature] — Month 12 Day 14 Year 16
Transporter 2 Printed/Typed Name — Signature — Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. PCB 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name — Signature — Month Day Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. **GENERATOR'S INITIAL COPY**

Attachment 17 - Parts List

Parts List
Judith Lane

Item Description	Part Number	Maintenance Frequency	Maintenance Reference	Spare Quantity*
EPG Levelmaster Level Sensor (Transducer)	KPSI 700	As needed	N/A	1
EPG Levelmaster CH1000 Level Meter	CH1000	N/A	N/A	1
Badger M2000 Magnetic Flow Meter	M2000	Not Required	Pg. 55 of Installation and O&M Manual	1
Sensaphone Water Sensor	FGD-0056	N/A	N/A	N/A
EPG TSP Submersible Pump	TSP 2-8	As needed	N/A	2
EPG Pump Motor	MSF4005A16JX	N/A	N/A	2
EPG 150' Motor Lead	MLF143CP150	N/A	N/A	1
EPG LMSA 2000-OCS Stand Alone, Level Monitoring Station Control Panel	LMSA 2000	N/A	N/A	N/A
Vent Valves	050 RBX 2511 / 4001	As needed	N/A	1
Ball Check Valves	WTR 5109	As needed	N/A	1

* These parts are kept on hand at the Judith Lane Site in the case of equipment malfunction.